

Amtd. dated May 4, 2004
Reply to Office action of February 5, 2004

Serial No. 09/870,326
Docket No. TUC920010023US1
Firm No. 0018.0093

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method for generating a status page to display on a computer display, comprising:
 - receiving a request for status information on a resource;
 - determining an operation being performed with respect to the resource, wherein the operation is one of a management operation for the resource;
 - generating data to display a progress bar indicating a percent of the operation that has completed, wherein a first part of the progress bar indicates a percent of the operation that has completed and a second part of the progress bar indicates a percent of the operation that has not completed;
 - determining an attribute of the operation, wherein the determined attribute indicates a reason the operation is being performed; and
 - generating data to display information with one of the first part or second part of the progress bar indicating the determined attribute of the operation, wherein the data to display information indicating the determined attribute of the operation indicates a reason the operation is being performed and wherein the data to display the progress bar indicates a percent of the operation that has completed and a percent of the operation that has not completed.
2. (Currently Amended) The method of claim 1, wherein the operation is a rebuild operation and wherein the determined attribute indicates a whether the reason the operation is being performed is to reconfigure a storage space or as part of a failure recovery operation.
3. (Original) The method of claim 1, wherein the determined attribute is capable of having one of multiple values, wherein the data to display the information indicating the

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determined attribute further indicates the determined attribute value, wherein different information is displayed for each attribute value.

4. (Original) The method of claim 1, wherein the information indicating the determined attribute is displayed with the second part of the progress bar and further indicates a state of the resource after the operation completes.

5. (Original) The method of claim 4, wherein displaying the first or second part with information comprises displaying the first or second part of the bar in a manner that conveys the information indicating the determined attribute value of the operation.

6. (Original) The method of claim 5, wherein displaying the first or second part of the bar in the manner that conveys the information comprises displaying the first or second part of the bar in a color that is associated with the determined attribute value of the operation, wherein there are different colors associated with different attribute values.

7. (Original) The method of claim 1, wherein the resource comprises a storage device and the operation comprises a formatting operation performed with respect to the storage device.

8. (Original) The method of claim 7, wherein the determined attribute is capable of indicating one of multiple possible sources of the formatting operation, wherein the generated data to display the information indicating the determined attribute further indicates the determined source of the formatting operation, and wherein different information is displayed for each different source.

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9. (Original) The method of claim 8, wherein the formatting operation comprises a rebuild operation to reconstruct a storage space in the storage device, wherein the source of the formatting operation is capable of comprising a modification to the configuration or a failure within the storage device.

10. (Original) The method of claim 9, wherein displaying the first or second part of the bar with information comprises displaying the first or second part of the bar in a color that is associated with the determined source of the rebuild operation.

11. (Original) The method of claim 7, wherein the storage device includes multiple interfaces, wherein each interface is capable of engaging one storage unit, further comprising: generating data to display information on the status of each interface with the displayed progress bar, wherein the information is capable of indicating that each interface is empty or includes an available storage unit, wherein the formatting operation is performed with respect to the available storage units engaged with the interfaces.

12. (Original) The method of claim 11, wherein the information on the status of each interface is further capable of indicating whether the interface is engaged with a storage unit that is available as a hot spare for use if one available storage unit engaged with another interface fails.

13. (Original) The method of claim 12, wherein the storage device comprises a Redundant Array of Independent Disks (RAID) and the storage units comprise hard disk drives, and wherein the formatting operation is performed with respect to a logical storage space that spans multiple of the available storage units.

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14. (Original) The method of claim 7, wherein the storage device includes a network interface and performs the steps of receiving the request for status information and generating the data to display, wherein the request is received from a computer over the network, further comprising:

adding the data to a file; and
transmitting the file over the network to the computer submitting the request.

15. (Original) The method of claim 14, wherein the file is capable of being rendered by an Internet browser program.

16. (Currently Amended) A system for generating a status page to display on a computer display, comprising:

means for receiving a request for status information on a resource;
means for determining an operation being performed with respect to the resource,
wherein the operation is one of a management operation for the resource;
means for generating data to display a progress bar indicating a percent of the operation that has completed, wherein a first part of the progress bar indicates a percent of the operation that has completed and a second part of the progress bar indicates a percent of the operation that has not completed;

means for determining an attribute of the operation, wherein the determined attribute indicates a reason the operation is being performed; and

means for generating data to display information with one of the first part or second part of the progress bar indicating the determined attribute of the operation, wherein the data to display information indicating the determined attribute of the operation indicates a reason the operation is being performed and wherein the data to display the progress bar indicates a percent of the operation that has completed and a percent of the operation that has not completed.

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17. (Currently Amended) The system of claim 16, wherein the operation is a rebuild operation and wherein the determined attribute indicates a whether the reason the operation is being performed is to reconfigure a storage space or as part of a failure recovery operation.

18. (Original) The system of claim 16, wherein the determined attribute is capable of having one of multiple values, whrcin the data to display the information indicating the determined attribute further indicates the determined attribute value, and wherein different information is displayed for each attribute value.

19. (Original) The system of claim 16, wherein the information indicating the determined attribute is displayed with the second part of the progress bar and further indicates a state of the resource after the operation completes.

20. (Original) The system of claim 19, wherein the means for generating data to display the first or second part with information includes data to display the first or second part of the bar in a manner that conveys the information indicating the determined attribute value of the operation.

21. (Original) The system of claim 20, wherein the means for generating data to convey the information generates data to display the first or second part of the bar in a color that is associated with the determined attribute value of the operation, whrcin there are different colors associated with different attribute values.

22. (Original) The system of claim 16, wherein the resource comprises a storage device and the operation comprises a formatting operation performed with respect to the storage device.

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23. (Original) The system of claim 22, wherein the determined attribute is capable of indicating one of multiple possible sources of the formatting operation, wherein the generated data to display the information indicating the determined attribute further indicates the determined source of the formatting operation, and wherein different information is displayed for each different source.

24. (Original) The system of claim 23, wherein the formatting operation comprises a rebuild operation to reconstruct a storage space in the storage device, wherein the source of the formatting operation is capable of comprising a modification to the configuration or a failure within the storage device.

25. (Original) The system of claim 24, wherein generating data to display the first or second part of the bar with information generates data to display the first or second part of the bar in a color that is associated with the determined source of the rebuild operation.

26. (Original) The system of claim 22, wherein the storage device includes multiple interfaces, wherein each interface is capable of engaging one storage unit, further comprising: means for generating data to display information on the status of each interface with the displayed progress bar, wherein the information is capable of indicating that each interface is empty or includes an available storage unit, and wherein the formatting operation is performed with respect to the available storage units engaged with the interfaces.

27. (Original) The system of claim 26, wherein the information on the status of each interface is further capable of indicating whether the interface is engaged with a storage unit that is available as a hot spare for use if one available storage unit engaged with another interface fails.

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28. (Original) The system of claim 27, wherein the storage device comprises a Redundant Array of Independent Disks (RAID) and the storage units comprise hard disk drives, and wherein the formatting operation is performed with respect to a logical storage space that spans multiple of the available storage units.

29. (Original) The system of claim 22, wherein the storage device includes a network interface and performs the steps of receiving the request for status information and generating the data to display, wherein the request is received from a computer over the network, further comprising:

means for adding the data to a file; and
means for transmitting the file over the network to the computer submitting the request.

30. (Original) The system of claim 29, wherein the file is capable of being rendered by an Internet browser program.

31. (Currently Amended) An article of manufacture including code for generating a status page to display on a computer display by:

receiving a request for status information on a resource;
determining an operation being performed with respect to the resource, wherein the operation is one of a management operation for the resource;
generating data to display a progress bar indicating a percent of the operation that has completed, wherein a first part of the progress bar indicates a percent of the operation that has completed and a second part of the progress bar indicates a percent of the operation that has not completed;

determining an attribute of the operation, wherein the determined attribute indicates a reason the operation is being performed; and

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generating data to display information with one of the first part or second part of the progress bar indicating the determined attribute of the operation, wherein the data to display information indicating the determined attribute of the operation indicates a reason the operation is being performed and wherein the data to display the progress bar indicates a percent of the operation that has completed and a percent of the operation that has not completed.

32. (Currently Amended) The article of manufacture of claim 31, wherein the operation is a rebuild operation and wherein the determined attribute indicates a whether the reason the operation is being performed is to reconfigure a storage space or as part of a failure recovery operation.

33. (Original) The article of manufacture of claim 31, wherein the determined attribute is capable of having one of multiple values, wherein the data to display the information indicating the determined attribute further indicates the determined attribute value, wherein different information is displayed for each attribute value.

34. (Original) The article of manufacture of claim 31, wherein the information indicating the determined attribute is displayed with the second part of the progress bar and further indicates a state of the resource after the operation completes.

35. (Original) The article of manufacture of claim 34, wherein displaying the first or second part with information comprises displaying the first or second part of the bar in a manner that conveys the information indicating the determined attribute value of the operation.

36. (Original) The article of manufacture of claim 35, wherein displaying the first or second part of the bar in the manner that conveys the information comprises displaying the first

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or second part of the bar in a color that is associated with the determined attribute value of the operation, wherein there are different colors associated with different attribute values.

37. (Original) The article of manufacture of claim 31, wherein the resource comprises a storage device and the operation comprises a formatting operation performed with respect to the storage device.

38. (Original) The article of manufacture of claim 37, wherein the determined attribute is capable of indicating one of multiple possible sources of the formatting operation, wherein the generated data to display the information indicating the determined attribute further indicates the determined source of the formatting operation, and wherein different information is displayed for each different source.

39. (Original) The article of manufacture of claim 38, wherein the formatting operation comprises a rebuild operation to reconstruct a storage space in the storage device, wherein the source of the formatting operation is capable of comprising a modification to the configuration or a failure within the storage device.

40. (Original) The article of manufacture of claim 39, wherein displaying the first or second part of the bar with information comprises displaying the first or second part of the bar in a color that is associated with the determined source of the rebuild operation.

41. (Original) The article of manufacture of claim 37, wherein the storage device includes multiple interfaces, wherein each interface is capable of engaging one storage unit, further comprising:

generating data to display information on the status of each interface with the displayed progress bar, wherein the information is capable of indicating that each interface is empty or

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includes an available storage unit, wherein the formatting operation is performed with respect to the available storage units engaged with the interfaces.

42. (Original) The article of manufacture of claim 41, wherein the information on the status of each interface is further capable of indicating whether the interface is engaged with a storage unit that is available as a hot spare for use if one available storage unit engaged with another interface fails.

43. (Original) The article of manufacture of claim 42, wherein the storage device comprises a Redundant Array of Independent Disks (RAID) and the storage units comprise hard disk drives, and wherein the formatting operation is performed with respect to a logical storage space that spans multiple of the available storage units.

44. (Original) The article of manufacture of claim 37, wherein the storage device includes a network interface and performs the steps of receiving the request for status information and generating the data to display, wherein the request is received from a computer over the network, further comprising:

adding the data to a file; and

transmitting the file over the network to the computer submitting the request.

45. (Original) The article of manufacture of claim 44, wherein the file is capable of being rendered by an Internet browser program.